

Appn. Serial No. 10/693,244
Amendment Dated July 30, 2007
Reply to Office Action Mailed May 31, 2007

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REMARKS

In the Office Action dated May 31, 2007, claims 1 and 3 were rejected under 35 U.S.C. § 112, ¶ 1.

Applicant acknowledges the indication that claims 1, 4-8, 10, 12-14, 17, 18, and 26-31 have been allowed. It is noted that claim 1 was actually rejected under 35 U.S.C. § 112, ¶ 1. Applicant construes the allowance of claim 1 as an indication that claim 1 would be allowable if the § 112, ¶ 1 rejection were overcome.

In the § 112, ¶ 1 rejection, the Examiner asserted that claims 1 and 3 do not comply with the written description requirement. Specifically, the Examiner indicated that the Examiner was unable to "locate support in the applicant's original disclosure for forming a portion of the microcrystalline thin film 'without converting amorphous silicon to microcrystals'." 5/31/2007 Office Action at 2. The Examiner stated that the Examiner was unable to "locate support for such a negative limitation." *Id.* at 2-3.

The Examiner cited *Ex parte Grasselli*, 231 U.S.P.Q. 393 (BPAI 1983), *aff'd.*, 738 F.2d 453 (Fed. Cir. 1984), for the proposition that "[n]egative limitations recited to overcome prior art can be considered new matter." *Id.* at 3. The Examiner also noted that "[i]f the applicant can provide adequate support from the original disclosure for the negative limitation, the examiner will withdraw the rejection." *Id.*

The facts of the *Ex parte Grasselli* case are distinguishable from the facts of the present case. In *Grasselli*, the Board found that the negative limitations recited in the claims introduced new concepts such that the written description requirement of § 112, ¶ 1, is violated. However, in present claim 1, the clause "formed without converting amorphous silicon to the microcrystals" is adequately supported by the originally-filed Specification.

In considering whether a claim element is adequately supported by the Specification, "the whole" of the disclosure should be considered. See *In re Anderson*, 471 F.2d 1237, 1240, 176 U.S.P.Q. 331 (CCPA 1973) (holding that it was error for the PTO to consider just one part of the disclosure, and that applicant "is clearly entitled to have the whole of his disclosure considered"). In fact, the subject matter of the claim need not be described literally (using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement. See M.P.E.P. § 2163.02 (8th ed., Rev. 5), at 2100-179; *In re Herschler*, 591 F.2d 693, 701, 200 U.S.P.Q. 711

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(CCPA 1979) (noting that it is "not necessary that the application describe the claim limitations exactly"). All that is required is that the application "reasonably convey to persons skilled in the art that, as of the filing date thereof, the inventor had possession of the subject matter later claimed by him." *In re Edwards*, 568 F.2d 1349, 1352, 196 U.S.P.Q. 465 (CCPA 1978).

When the present Specification is considered as a whole, it is clear that the subject matter of claim 1 is adequately supported. In ¶ [08] of the Specification, in the Background section, reference is made to a conventional film forming method in which amorphous silicon film is formed that has to be converted to microcrystals. Paragraph [08] of the Specification notes that converting the crystalline structure of the "entire amorphous silicon film is not easy and there is a high probability of a certain percentage of amorphous silicon film remaining." In the Detailed Description section of the present application, reference is made to forming a microcrystalline thin film according to a first embodiment in which "SiH₄ and H₂ are supplied at the flow rate ratio that meets the conditions in this area III during the source supplying process," where "area III indicates conditions under which only the microcrystalline silicon film is formed." Paragraph [029] also mentions that the flow rate ratio of SiH₄ and H₂ during the source supplying process "is limited to a prescribed value(s) in order to prevent the thin film formed on the substrate from becoming amorphous." Also, ¶ [033] notes that, in the source depositing process, valve 4 is closed to stop the SiH₄ supply and only H₂ is supplied into growth chamber 1. What this means is that the ratio of H₂ to SiH₄ is increased during the source depositing process, and thus would cause the process to remain in area III of Fig. 2, in which only microcrystalline silicon film is formed.

Moreover, ¶ [042] notes that, according to the first embodiment, parameters other than the flow rate of SiH₄ can be maintained at constant values throughout the source supplying process and the source depositing process. Such other parameters include the electric field intensity mentioned in ¶¶ [029] and [030]. This further emphasizes that during the source depositing process, the conditions of area III of Fig. 2 are met such that only a microcrystalline silicon film, and not amorphous silicon, is formed.

In view of at least the foregoing passages of the originally-filed application, a person of ordinary skill in the art would clearly have recognized that since the deposition of a microcrystalline film is performed without forming amorphous silicon, then conversion of

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amorphous silicon to microcrystals would clearly not be performed. Therefore, based on the foregoing, it is apparent that the inventors of the present application were in possession of the claimed subject matter. As noted above, the case law, and even the M.P.E.P., does not require that the exact or literal language of the claim be found in the written description. All that is required is that the written description reasonably convey to a person skilled in the art that the inventors had possession of the subject matter that is claimed.

The facts of the present case are similar to the facts at issue in *Ex parte Parks*, 30 U.S.P.Q.2d 1234 (BPAI 1993). The claim limitation at issue in *Ex parte Parks* is also a negative limitation. Specifically, the claim limitation at issue is "decomposition being conducted in the absence of a catalyst." *Id.* at 1235. The Board in *Ex parte Parks* emphasized the point that adequate description under § 112, ¶ 1, does not require literal support for the claimed invention. *Id.* at 1236. In reviewing the written description, the Board in *Ex parte Parks* reviewed various passages of the written description at issue. What the Board in that case found significant was that in such passages, "no mention is made of a catalyst." *Id.* The Board in *Ex parte Parks* found that this was sufficient to support the negative limitation "in the absence of a catalyst." *Id.* at 1236-37.

The facts of the present case are more similar to the facts of *Ex parte Parks* than those of *Ex parte Grasselli*. As discussed above, various passages of the present application clearly support the clause of claim 1 that recites that "the portion of the microcrystalline thin film is formed without converting amorphous silicon to the microcrystals."

In view of the foregoing, withdrawal of the § 112, ¶ 1 rejection of claims 1 and 3 is respectfully requested.

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Allowance of all claims is respectfully requested. The Commissioner is authorized to charge any additional fees and/or credit any overpayment to Deposit Account No. 20-1504 (CMO.0012US).

Respectfully submitted,

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